AMENDMENTS

Please amend the claims as follows:

1.   (currently amended) In a diagnostic medical ultrasound system, the improvement comprising an event recognition processor, wherein said event recognition processor is operative:

    a.   to recognize one or more non-cyclical distinguished events constituting a subset of an ultrasound examination; and

    b.   to select a portion of the ultrasound examination to be stored or marked based on the recognition of the one or more distinguished events, by performing at least one of the following:

        i.   automatically marking the one or more events;

        ii.   automatically causing the one or more events to be marked;

        iii.   automatically storing the one or more events;

        iv.   automatically causing the one or more distinguished events to be stored;

        v.   automatically terminating storage of a portion of the ultrasound examination; and

        vi.   automatically causing termination of storage of a portion of the ultrasound examination; or

        vii.   combinations thereof.

2.   (currently amended) The invention of Claim 1, wherein the event recognition processor recognizes a substantially stationary probe as a the distinguished event.

3.   (currently amended) The invention of Claim 1, wherein the event recognition processor recognizes an ECG irregularity as a the distinguished event.

4.   (currently amended) The invention of Claim 1, wherein the event recognition processor recognizes a rate of change in brightness as a the distinguished event.

5.   (currently amended) The invention of Claim 1, wherein the event recognition processor recognizes a jet in Color Doppler as a the distinguished event.

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6.   (original) The invention of Claim 1, wherein the event recognition processor:

    a.   recognizes a pair of distinguished events which brackets the portion of the ultrasound examination of interest; and

    b.   selects the portion of the examination that occurs temporally in between the pair of distinguished events.

7.   (original) The invention of Claim 6, wherein a first one of the pair of distinguished events is marked with a start marker, and a second one of the pair of distinguished events is marked with an end marker.

8.   (original) The invention of Claim 7, wherein the event recognition processor also selects at least one of a first additional portion of the exam before the pair of distinguished events and a second additional portion of the exam after the pair of distinguished events.

9.   (original) The invention of Claim 1, wherein the event recognition processor selects at least one of a first portion of the exam before each distinguished event and a second portion of the exam after each distinguished event.

10.   (original) The invention of Claim 1, further comprising an event characterization capability, wherein said event characterization capability is operative:

    a.   to select one or more retention states based upon characterization of a feature in the selected portion of the ultrasound examination; and

    b.   to cause fewer than all image data sets of the selected portion of the ultrasound examination to be stored for some characterized features.

11.   (currently amended) The invention of Claim 10, wherein ~~thecharacterized~~ the characterized feature is motion.

12.   (original) The invention of Claim 10, wherein the characterized feature is a rate of change in brightness.

13.   (original) The invention of Claim 1, further comprising an image characterization capability, wherein said image characterization capability is operative:

    a.   to select a cropping factor based upon characterization of an image; and

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b.   to cause less than an entire field of view of an image to be stored.

14.   (original) The invention of Claim 1, wherein the event recognition processor provides feedback to a user interface to indicate that a distinguished event has been recognized.

15.   (original) The invention of Claim 14, wherein the feedback is audible.

16.   (original) The invention of claim 15, wherein the feedback is a tone of a first pitch at the beginning of storage or marking of an image clip, and is a tone of a second pitch at the end of storage or marking of an image clip.

17.   (original) The invention of Claim 14, wherein the feedback is visible.

18.   (original) The invention of Claim 17, wherein the feedback is a recording icon.

19.   (original) The invention of Claim 17, wherein the feedback is an incrementing displayed number.

20.   (original) The invention of Claim 1, where the event recognition processor is configured to operate on either real time image data or stored image data.

21.   (original) In a diagnostic medical ultrasound system, the improvement comprising an intelligent examination storage system, said intelligent examination storage system operative to automatically recognize and mark or store one or more non-repeating subsets of an ultrasound examination, said one or more non-repeating subsets being bracketed by one or more pairs of distinguished events.

22.   (original) The improvement of Claim 21, wherein said intelligent examination storage system comprises an event recognition processor.

23.   (original) The improvement of Claim 21, wherein said intelligent examination storage system comprises an event characterization capability.

24.   (original) The improvement of Claim 21, wherein said intelligent examination storage system comprises an image characterization capability.

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25.   (original) The improvement of Claim 21, wherein said intelligent examination storage system comprises:

    a.   an event recognition processor;

    b.   an event characterization capability; and

    c.   an image characterization capability.

26.   (original) The improvement of Claim 22, wherein the event recognition processor automatically marks a first event of each pair with a start marker and a second event of each pair with an end marker.

27.   (original) The improvement of Claim 26, wherein the intelligent examination storage system marks or stores, or causes to be marked or stored, image data sets between the start and end markers, as well as a preview subset of the ultrasound examination occurring before the start marker and a post-view subset of the ultrasound examination occurring after the end marker.

28.   (original) The improvement of Claim 27, wherein the intelligent examination storage system marks or stores, or causes to be marked or stored, image data before and after the non-repeating subset of the ultrasound examination.

29.   (currently amended) A method for storing data by a diagnostic medical ultrasound system, the method comprising:

    a.   inputting ultrasound examination data comprising a sequence of image data sets to an event recognition processor;

    b.   processing the examination data by:

        i.   reviewing the sequence of image data sets;

        ii.   determining, as a result of the review, whether a <u>non-cyclical</u> distinguished event has occurred;

        iii.   if a distinguished event has occurred, selecting a subset of the image data sets for marking and/or storage, or for cessation or marking and/or storage;

    c.   marking or storing the selected subset of the image data sets, or stopping the marking and/or storage of the selected subset of the image data sets, without the need for user intervention.

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30.   (original) The method of Claim 29, further comprising as part of step biii, selecting for the subset of the image data sets, at least one of a first additional portion of the exam before the distinguished event and a second additional portion of the exam after the distinguished event.

31.   (original) The method of Claim 30, further comprising in step biii, decimating as part of the selecting step.

32.   (original) The method of Claim 29, further comprising in step b, applying a cropping factor before storing, and storing frames cropped by said cropping factor.

33.   (original) The method of Claim 29, wherein motion between sequential image data sets is reviewed, and the determination of whether a distinguished event has occurred is based upon the absence of substantial motion above a pre-determined motion threshold.

34.   (original) The method of Claim 33, wherein the motion that is reviewed is motion of the probe.

35.   (original) The method of Claim 33, wherein the motion that is reviewed is motion within the image.

36.   (original) The method of Claim 29, further comprising in step b, processing the examination data based on an application-specific pre-set or an imaging modality.

37.   (original) The method of Claim 36, wherein brightness between sequential image data sets in a cardiology examination is reviewed, and the determination of whether a distinguished event has occurred is based upon a rate of change of brightness exceeding a pre-determined threshold.

38.   (original) The method of Claim 36, wherein time intervals between successive R-waves in an ECG trace is reviewed, and the determination of whether a distinguished event has occurred is based upon a change in said time intervals exceeding a pre-determined threshold.

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39. (original) The method of Claim 36, wherein velocity information in a Color Doppler image is compared, and the determination of whether a distinguished event has occurred is based upon a rate of change of high velocities.

40. (original) The method of Claim 29, further comprising in step b, determining whether a pair of distinguished events has occurred.

41. (original) The method of Claim 39, further comprising marking or storing at least some of the image data sets between one or more pairs of distinguished events.

42. (original) The method of Claim 41, further comprising marking or storing at least some of the image data sets before the one or more pairs of distinguished events.

43. (original) The method of Claim 42, further comprising marking or storing at least some of the image data sets after the one or more pairs of distinguished events.

44. (original) The method of Claim 29, wherein in the inputting step, the sequence of image data sets is input from a stored ultrasound exam.

45. (original) The method of Claim 29, wherein step b further comprises an event characterization capability, wherein said event characterization capability is operative:

a. to select one or more retention states based upon characterization of a feature in the selected portion of the ultrasound examination; and

b. to cause fewer than all image data sets of the selected portion of the ultrasound examination to be stored for some characterized features.

46. (new) The system of Claim 1 wherein the event recognition processor is operative to recognize the one or more non-cyclical distinguished events automatically without user input of criteria for recognizing the one or more non-cyclical distinguished events.

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